

THE INTRIGUING CASE OF *CYPRIPEDIUM CROSSII*, ITS PRIORITY OVER *CYPRIPEDIUM CALLOSUM* AND ITS TRANSFER TO THE GENUS *PAPHIOPEDILUM*

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ABSTRACT

Cypripedium crossii Morren was first mentioned in La Belgique Horticole for 1865 and described in the same journal for 1883. Its priority over *Cypripedium callosum* Rchb.f. 1886 is discussed and established. The taxon and two of its known varieties are transferred to the genus *Paphiopedilum* Pfitzer.

KEY WORDS: *Orchidaceae*, *Cypripedioideae*, *Cypripediaceae*, *Cypripedium*, *Paphiopedilum*, *callosum*, *crossii*, *barbatum*, *sublaeve*, *potentianum*, Taxonomy, Systematics, Orchid Hybrid Registration, International Code of Botanical Nomenclature, Saint Louis Code.

RESUMEN

Cypripedium crossii Morren se mencionó por primera vez en La Belgique Horticole en 1865 y se describió en la misma revista en 1883. Se discute y establece su prioridad sobre *Cypripedium callosum* Rchb.f. 1886. Este taxon y dos de sus variedades conocidas se transfieren al género *Paphiopedilum* Pfitzer.

INTRODUCTION

During the preparatory work for the third volume of Braem, Baker & Baker, *The genus Paphiopedilum – Natural History and Cultivation*, the literature regarding *Paphiopedilum callosum* (Rchb.f.) Stein was reviewed. The taxon referred to as *Cypripedium crossii* Morren has been interpreted as a synonym of *Paphiopedilum barbatum* by Braem (1988) and considered to be a *nomen nudum* within the synonymy of *Paphiopedilum callosum* by Cribb (1987, 1998). A review of the original literature has conclusively revealed that both interpretations are erroneous.

DISCUSSION

Cypripedium crossii was first mentioned by Morren (1865) in a short article in volume 15 of La Belgique Horticole, 21 years before the publication of *Cypripedium callosum* (Rchb.f. 1886). In his 1865 article, Morren simply states that the *Cypripedium* originates from Peru and that it carries the name of its discoverer, Mr. Cross. No description or any further information is made available. However, plate 17, which is part of the article, shows a

plant labeled as *Cypripedium crossii*. This illustration leaves no room to doubt that the taxon published by Morren as *Cypripedium crossii* is identical with the plant described as *Cypripedium callosum* by the younger Reichenbach in 1886. The Morren "note" has been interpreted as insufficient to be regarded as a valid and effective publication of *Cypripedium crossii* as an autonomous taxon, an interpretation generally based on article 42.3 of the International Code of Botanical Nomenclature (ICBN) generally referred to as the "Code." Article 42.3 (taken from the Saint Louis Code [Greuter et al. 2000], which is the effective version) reads,

"Prior to 1 January 1908 an illustration with analysis, or for non-vascular plants, a single figure showing details aiding identification, is acceptable, for the purpose of this article, in place of a written description or diagnosis."

And article 42.4 clarifies what is to be understood as an analysis,

"For the purpose of Art. 42, an analysis is a figure or group of figures, **commonly** separate from the main illustration of the plant (though usually on the same page or plate), showing details aiding identification, with or without a separate caption."

The Morren note was accompanied by a color plate of *Cypripedium crossii* (Fig. 1). There can be no doubt about the identity of the plant published as *Cypripedium crossii* by Morren in 1865 is identical with the taxon we have hitherto referred to as *Paphiopedilum callosum* (Rchb.f.) Stein. The plate contains details that allow for the identification; two flowers are shown. The color plate clearly depicts the different aspects of the plant and flower such as shape and tessellation of leaves, shape and color of all parts of the corolla, from the front as well as from the back, detailed shape of staminodal shield, the ovary, and the floral bract. In other words all aspects relative to the identification of a slipper orchid. Thus the plate satisfies the requirements of Art. 42.4, especially as that article clearly states (see above) that the "figure" or "group of figures" do(es) not necessarily have to be "separate from the main illustration of the plant." If this were not so, the inclusion of the word "commonly" in article 42.4 would make no sense.

It is ludicrous to disqualify the publication of *Cypripedium crossii* by Morren in the scientific journal *La Belgique Horticole* knowing that the valid code accepts publication in trade catalogues or non-scientific newspapers before 1 January 1953, and in seed-exchange lists before 1 January 1973 (see Code, Article 30.3). As every botanist knows, a publication in a seed list generally means simple mention of the botanical (Latin) name. Thus, *Cypripedium crossii* is for all purposes to be regarded as validly and effectively published in 1865.

In 1883, in volume 33 of the same journal (*La Belgique Horticole*), Morren wrote an extensive article entitled "*Cypripedium barbatum*, Lindl. and its major varieties, *crossi* [sic.], *warnerianum*, etc." This article was illustrated with a colored plate (Fig 2).

The plate reveals that the plant Morren described is identical with the plant he had depicted in 1865, thus the plant we have hitherto generally addressed as *Paphiopedilum callosum* (Rchb.f.) Stein. Morren writes, "*Cypripedium crossi* [sic.] has a very wide, somewhat trilobed dorsal sepal which is white, veined with green and crimson. It is transversally

divided in the middle by a crimson stripe. The petals are half-green and half-white with green veins and rose extremities. The lip is dark rose-brown."

Thus, in 1883, Morren published a description of *Cypripedium crossii*, although he considered this plant to be a variety of *Paphiopedilum barbatum* Lindley.

CONCLUSIONS

In view of the facts delineated above, there is no reason to deny *Cypripedium crossii* Morren full taxonomic validity. Whereas the validity of Morren's publication of 1865 could possibly be a matter of discussion (but see below), the taxon was distinctly described in Morren's 1883 article, and clearly identified as an autonomous taxon identical to the species hitherto generally referred to as *Paphiopedilum callosum* (Rchb.f.) Stein. Both Morren publications predate the publication of *Cypripedium callosum* by the younger Reichenbach and therefore, *Cypripedium crossii* Morren is to be given priority in accordance with the rules of nomenclature. The taxon is to be transferred to the genus *Paphiopedilum*. The authors are well aware of the fact that conservative growers and hybridizers will argue that the name "*Paphiopedilum callosum*" should be retained because a multitude of hybrids has been registered indicating "*Paphiopedilum callosum*" to be part of their ancestry. This argument must be rejected. The registration of orchid hybrids (and any other hybrids for that matter) is no concern to botanical taxonomy. Furthermore, the registration authority for orchid hybrids (Royal Horticultural Society, London) is by no means a taxonomic ruling body. Furthermore, if the horticultural argument were to be followed, the name "*Cypripedium*" would have to be re-instated for the genus *Paphiopedilum* (and other genera), etc. Last, but not least, the identity of (at least) some of the hybrids must be questioned. If we would reject a valid name because its use is considered to be inconvenient to horticulture, it would, indeed be best to ignore all rules of botanical taxonomy.

TAXONOMY

Paphiopedilum crossii (Morren) Braem & Senghas, comb. et stat. nov. BASIONYM: *Cypripedium crossii* Morren in *Belgique Horticole* 15:226, t. 17, 1865; *Belgique Horticole* 33:96–98 [97–98], t. 7, 1883.

Cypripedium callosum Rchb.f., *Gard. Chron.* ser. 2, 26:326. 1886. *Cordula callosa* (Rchb.f.) Rolfe, *Orchid Rev.* 20:2. 1912.

Cypripedium schmidtianum Kraenzl., *Bot. Tidsskr.* 24:13. 1901. *Paphiopedilum callosum* var. *schmidtianum* (Kraenzl.) Pfitzer in Engler, *Pflanzenr.* IV. 50. *Orchidaceae-Pleonandrae*: 93. 1903.

Paphiopedilum callosum var. *angustipetalum* Guillaumin, *Bull. Soc. Bot. France* ser. 4, 24:551. 1924.

The decision to transfer the following two varieties was a difficult one as their botanical validity is by no means established. The differentiation between the type variety (thus the autonym *Paphiopedilum crossii* var. *crossii*) and *Paphiopedilum crossii* var. *sublaeve*



FIG. 1. *Paphiopedilum crossii* (Morren) Braem & Senghas, from Morren in *Belgique Horticole*, 1865.



FIG. 2. *Paphiopedilum crossii* (Morren) Braem & Senghas, from Morren in Belgique Horticole, 1883.

consists merely in var. *sublaeve* having somewhat smaller flowers with a smaller dorsal (cf. Cribb 1987, 1998). Reichenbach fil. (1888), in his original publication of var. *sublaeve*, simply notes that the plant came out of a batch of "*Cypripedium callosum*," and that "it might be supposed to be a natural hybrid." Cribb also states (loc. cit.) that the petals of var. *sublaeve* "usually bear warts only on the upper margin." This, however, also applies to the plant he depicts as *Paphiopedilum callosum* var. *callosum* on page 333 of his book (Cribb 1998).

It is amazing that the validity and effectiveness of the Reichenbach fil. publication, rendered in a British horticultural newspaper and in English, without any description or illustration, has never been questioned, whereas the publication of *Cypripedium crossii* by Morren, admittedly in a Belgian scientific journal, and admittedly in French, should be denied acceptance although Morren's plant can be positively identified by the explicit illustration that is part of the publication.

Variety (?) *potentianum* differs merely by the lack of the marginal warts on the upper margin and its narrower dorsal sepal (see Cribb 1998).

It may very well be argued that these are phenotypes that are well within the normal range of a natural species.

Paphiopedilum crossii var. **sublaeve** (Rchb.f.) Braem & Senghas, comb. et stat. nov. BASIONYM: *Cypripedium callosum* var. *sublaeve* Rchb.f., Gard. Chron. Ser. 3, 3:331. 1888. *Paphiopedilum callosum* subsp. *sublaeve* (Rchb.f.) Fowlie, Orchid Digest 36:145. 1972; 38:187. 1974. *Paphiopedilum sublaeve* (Rchb.f.) Fowlie, Orchid Digest 43:224. 1979. *Paphiopedilum callosum* var. *sublaeve* (Rchb.f.) Cribb, Genus *Paphiopedilum* 188. 1987.

Paphiopedilum thailandense Fowlie, Orchid Digest 43:220. 1979, nomen nudum.

? *Cypripedium callosum* var. *warnerianum* T. Moore in Warner, Select Orchid. Pl. 3, t. 11, 1878.

Paphiopedilum crossii var. **potentianum** (Gruß & Röth) Braem & Senghas, comb. et stat. nov. BASIONYM: *Paphiopedilum potentianum* Gruß & Röth., Caesiana 5:39. 1995. *Paphiopedilum callosum* var. *potentianum* (Gruß & Röth) Cribb, Genus *Paphiopedilum*, 2nd ed. 337. 1998.

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